



JUNE 28 - 30, 2005 NORFOLK CONVENTION CENTER

Battlespace Networking

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Communications and Networking Session

Sponsored by
SPAWARSYSCOM
FORCEnet Chief Engineer





Warfighting Objective



**Net warfighters in the Joint battlespace
to shorten the kill chain, and deliver
an improved common operational
and tactical picture**

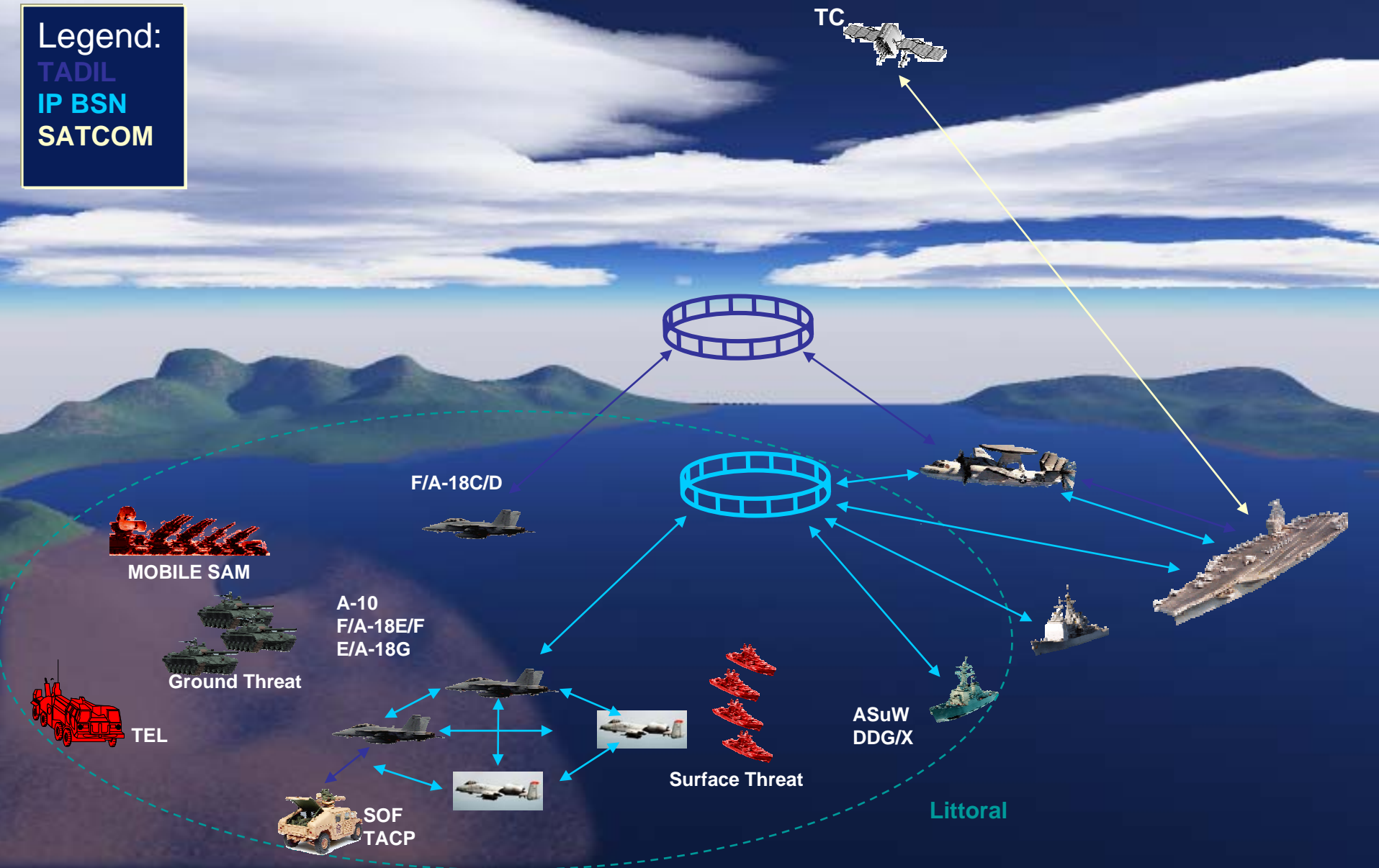
*Use the right platform to place the right
weapon on the right target at the right time*



Battlespace Network (BSN) Initial Capability OV



Legend:
TADIL
IP BSN
SATCOM





Network Application Extensions and Interfaces

Joint Mission Planning
System (JMPS)

Joint Command and Control
(JC2) (GCCS)

Composeable FORCEnet

Distributed Common Ground
System (DCGS)

Joint Track Manager (JTM)

Single Integrated Picture
(SIAP)

Future Combat System (FCS)

Network Centric Collaborative
Targeting (NCCT)

Network Services

Publish and Subscribe

Quality of Service (QOS)

Information Assurance
(Authentication, Access)

GIG Extension

Platform Infrastructure

F/A-18

E-2

CV

DDG

Radio Integration

Open Architecture
Computing Environment

Network Integration (ADNS)

Combat System Interface

Platform Software
Applications

MIDS JTRS Radio



Joint/Coalition Enablers



- Waveforms

- Field a network designed to cross service and platform boundaries***

- Mobile Adhoc Network (MANET) capable
 - Network stack commonality
 - Spectrum
 - Information Assurance

- Network Services

- Deliver a manageable network***

- Quality of service
 - Publish and subscribe
 - Common data model

- Network (Mission) Applications

- Realize warfighting outcomes***

- Shorten the kill chain *and* Improve the common operational and tactical picture (COTP)
 - Distributed computing interfaces and extensions to existing POR's

Summary

- **Investment in network centric warfare must move to the battlespace itself**
- **The task is daunting in size and complexity**
 - Focus on quickly delivering solutions around mission threads
 - Limit missions, platforms and complexity for initial solutions
 - Pick missions that demand Joint/Coalition involvement and attention
- **Mission-enabling software applications are the heart of the technical solution**
 - The JTRS program alone delivers very little new warfighting capability
 - Commit to a “whole system” investment
 - Demand tight cross-service and coalition involvement
 - Invest in comprehensive systems engineering
- **A technical solution is not enough**
 - Technology enabled doctrinal change will yield the greatest gains
 - Demand rapid spirals with close coupling to experimentation

Joint Systems Engineering Needed